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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XE234

Taking of Marine Mammals Incidental to Specified Activities; Coupeville Timber Towers Preservation Project

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; issuance of an incidental take authorization.

SUMMARY: In accordance with regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an Incidental Harassment Authorization (IHA) to the Washington State Department of Transportation (WSDOT) to take, by harassment, small numbers of 10 species of marine mammals incidental to construction activities for the Coupeville Timber Tower Preservation Project in Washington State, between July 15, 2016, and July 14, 2017.

DATES: This authorization is effective from July 15, 2016, through July 14, 2017.

FOR FURTHER INFORMATION CONTACT: Shane Guan, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity

(other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NMFS has defined "negligible impact" in 50 CFR 216.103 as "...an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival."

Section 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the U.S. can apply for a one-year authorization to incidentally take small numbers of marine mammals by harassment, provided that there is no potential for serious injury or mortality to result from the activity. Section 101(a)(5)(D) establishes a 45-day time limit for NMFS review of an application followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of marine mammals. Within 45 days of the close of the comment period, NMFS must either issue or deny the authorization.

Summary of Request

On June 9, 2015 WSDOT submitted a request to NOAA requesting an IHA for the possible harassment of small numbers of marine mammal species incidental to

construction associated with the Coupeville Timber Towers Preservation Project at the Coupeville Ferry Terminal in Washington State, between July 15, 2016, and July 14, 2017. On September 22, WSDOT submitted a revised IHA application which incorporated rigorous monitoring and mitigation measures that would prevent the take of humpback whales and the Southern Resident killer whales, which are listed under the Endangered Species Act (ESA). The revised IHA application requests the take of small numbers of 10 marine mammal species incidental to the Coupeville Timber Towers Preservation Project. NMFS determined that the IHA application was complete on October 1, 2015. NMFS proposed to authorize the Level B harassment of the following marine mammal species/stocks: harbor seal, California sea lion, Steller sea lion (eastern Distinct Population Segment, or DPS), northern elephant seal, killer whale (West Coast transient stock), gray whale, minke whale, harbor porpoise, Dall's porpoise, and Pacific white-sided dolphin.

Description of the Specified Activity

A detailed description of the WSDOT's Coupeville Timber Towers Preservation Project is provided in the **Federal Register** notice for the proposed IHA (81 FR 3378; January 21, 2016).

WSDOT proposes to conduct Coupeville Timber Towers Preservation Project at the Washington Coupeville Ferry Terminal on Whidbey Island, Washington (Figure 1-2 of the IHA application), to upgrade the existing transfer span towers at the Coupeville Ferry Terminal. These activities include impact pile driving and vibratory pile removal.

Eight 24-inch diameter hollow steel piles would be installed to support the towers, and concrete caps will be installed on top of the towers in order to support the headframe

that houses the pulleys for the transfer span cables. Five to seven 12-inch timber piles would be removed to allow room for the new steel piles to be installed. The remaining tower timber piles would remain in place to help support the structure. Up to 6 temporary 24-inch diameter hollow steel piles would be installed to support the transfer span and towers cable systems during construction. All pile installation would be using impact pile driving.

Temporary steel piles would be removed with a vibratory hammer. Timber piles would be removed with a vibratory hammer or by direct pull using a chain wrapped around the pile. Although timber piles may be removed by means unlikely to result in harassment of marine mammals, we assume for purposes of this analysis that all timber piles would be removed with a vibratory hammer. The crane operator would take measures to reduce turbidity, such as vibrating the pile slightly to break the bond between the pile and surrounding soil, and removing the pile slowly; or if using direct pull, keep the rate at which piles are removed low enough to meet regulatory turbidity limit requirements. If piles are so deteriorated they cannot be removed using either the vibratory or direct pull method, the operator would use a clamshell to pull the piles from below the mudline. All work would occur in water depths between -10 and -20 feet mean lower-low water. It is expected to take 8 working days to complete the pile driving and removal activities.

Since that time, no changes have been made to the proposed construction activities. Therefore, a detailed description is not provided here. Please refer to that **Federal Register** notice for the description of the specific activity.

Comments and Responses

A notice of NMFS' proposal to issue an IHA to WSDOT was published in the **Federal Register** on January 21, 2016. That notice described, in detail, WSDOT's activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. During the 30-day public comment period, NMFS received comments only from the Marine Mammal Commission (Commission). Specific comments and responses are provided below.

Comment 1: The Commission recommends that NMFS issue the requested incidental harassment authorization, subject to inclusion of the proposed mitigation, monitoring, and reporting measures.

Response: NMFS concurs with the Commission's recommendation and has included the mitigation, monitoring, and reporting measures contained in the proposed authorization in the issued IHA.

Description of Marine Mammals in the Area of the Specified Activity

The marine mammal species under NMFS jurisdiction in the proposed construction area include Pacific harbor seal (*Phoca vitulina richardsi*), northern elephant seal (*Mirounga angustirostris*), California sea lion (*Zalophus californianus*), Steller sea lion (*Eumetopias jubatus*), killer whale (*Orcinus orca*) (transient and Southern Resident stocks), Eastern North Pacific gray whale (*Eschrichtius robustus*), humpback whale (*Megaptera novaeangliae*), minke whale (*Balaenoptera acutorostrata*), harbor porpoise (*Phocoena phocoena*), Dall's porpoise (*P. dalli*), and Pacific white-sided dolphin (*Lagenorhynchus obliquidens*). The Western North Pacific gray whale has been observed off the Northwest Pacific; however, the occurrence of this gray whale population in the vicinity of the project area is very unlikely.

Table 1. Marine Mammal Species Potentially Present in Region of Activity

Species	ESA Status	MMPA Status	Occurrence
Harbor Seal	Not listed	Non-depleted	Frequent
California Sea Lion	Not listed	Non-depleted	Frequent
Northern Elephant Seal	Not listed	Non-depleted	Occasional
Steller Sea Lion (eastern DPS)	Not listed	Under review	Rare
Harbor Porpoise	Not listed	Non-depleted	Frequent
Dall's Porpoise	Not listed	Non-depleted	Occasional
Pacific White-sided dolphin	Not listed	Non-depleted	Occasional
Killer Whale	Endangered (Southern Resident)	Depleted	Occasional
Killer whale	Not listed (transient)	Non-depleted	Occasional
Gray Whale	Delisted (Eastern North Pacific)	Unclassified	Occasional
Humpback Whale	Endangered	Depleted	Rare
Minke Whale	Not listed	Non-depleted	Rare

General information on the marine mammal species found in Washington coastal waters can be found in Caretta *et al.* (2015), which is available at the following URL: http://www.nmfs.noaa.gov/pr/sars/pdf/pacific_sars_2014_final_noaa_swfsc_tm_549.pdf. Refer to that document for information on these species. A list of marine mammals in the vicinity of the action and their status are provided in Table 1. Specific information concerning these species in the vicinity of the proposed action area is provided in detail in the WSDOT's IHA application. Currently, NMFS is conducting a review of the discrete population segments (DPS) of humpback whales for potential delisting, and the Northeast Pacific humpback whale could be delisted from the ESA list if the review determines that this population has recovered significantly.

Potential Effects of the Specified Activity on Marine Mammals

The effects of underwater noise from in-water pile removal and pile driving associated with the Coupeville Timber Towers Preservation Project has the potential to result in behavioral harassment of marine mammal species and stocks in the vicinity of the action area. The Notice of Proposed IHA (81 FR 3378; January 21, 2016) included a

discussion of the effects of anthropogenic noise on marine mammals, which is not repeated here. No instances of hearing threshold shifts (TS), injury, serious injury, or mortality are expected as a result of WSDOT's activities because the relatively low received levels from the sources. In addition, marine mammals are likely to avoid the immediate vicinity of the pile driving area to avoid TS.

Potential Effects on Marine Mammal Habitat

The primary potential impacts to marine mammals and other marine species are associated with elevated sound levels, but the project may also result in additional effects to marine mammal prey species and short-term local water turbidity caused by in-water construction due to pile removal and pile driving. These potential effects and the significance of any important marine mammal habitat are discussed in detail in the **Federal Register** notice for the proposed IHA and are not repeated here. The discussion provided previously indicates that any impacts to marine mammal habitat are not expected to cause significant or long-term consequences for individual marine mammals or their populations.

Mitigation Measures

In order to issue an incidental take authorization under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable adverse impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses.

For WSDOT's proposed Coupeville Timber Towers Preservation Project, NMFS is requiring WSDOT to implement the following mitigation measures to minimize the potential impacts to marine mammals in the project vicinity as a result of the in-water construction activities.

Time Restriction

Work would occur only during daylight hours, when visual monitoring of marine mammals can be conducted. In addition, all in-water construction will be limited to the period between July 15, 2016, and February 15, 2017, to avoid impacts to spawning salmonids.

Underwater Noise Attenuation Device

An air bubble curtain system or other noise attenuation device would be employed during impact installation or proofing of steel piles unless the piles are driven on dry areas.

Establishment of Exclusion Zone and Level B Harassment Zones of Influence

Before the commencement of in-water pile driving activities, WSDOT would establish Level A exclusion zones and Level B zones of influence (ZOIs). The received underwater sound pressure levels (SPLs) within the exclusion zone would be 190 dB (rms) re 1 μ Pa and above for pinnipeds and 180 dB (rms) re 1 μ Pa and above for cetaceans. The Level B ZOIs would encompass areas where received underwater SPLs are higher than 160 dB (rms) and 120 dB (rms) re 1 μ Pa for impulse noise sources (impact pile driving) and non-impulse noise sources (vibratory pile removal), respectively.

Based on in-water measurements at the WSDOT Port Townsend Ferry Terminal (WSDOT 2011a), removal of 12-in timber piles generated 149 to 152 dB (rms) re 1 μ Pa with an overall average value of 150 dB (rms) re 1 μ Pa measured at 16 m. A worst-case noise level for vibratory removal of 12-in timber piles would be 152 dB (rms) re 1 μ Pa at 16 m.

Based on in-water measurements at the WSDOT Port Townsend Ferry terminal, impact pile driving of 24-in steel piles ranged from 175 to 187 dB (rms) re 1 μ Pa measured at 10 m during the use of an air bubble curtain (WSDOT 2014a). An air bubble curtain would be used to attenuate steel pile impact driving noise during this project. A worst-case noise level for impact driving of 24-in steel piles would be 187 dB (rms) re 1 μ Pa at 10 m.

Data for vibratory removal of 24-inch temporary steel piles is not available, so it is conservatively assumed to be the same as vibratory driving. Based on in-water measurements at the same location as the activity considered here (previously known as the WSDOT Keystone Ferry Terminal), vibratory driving of 24-in steel piles ranged from 164 to 176 dB (rms) re 1 μ Pa with an overall average value of 171 dB (rms) re 1 μ Pa. Distances from hydrophone to pile ranged between 6 and 11 m (WSDOT 2010a). A worst-case noise level for vibratory removal of 24-in steel piles will be 176 dB (rms) re 1 μ Pa at 6 m.

Using a simple practical spreading model (sound transmission loss of 4.5dB per doubling distance) to determine the distance where underwater sound will attenuate to the 120 dB (rms) re 1 μ Pa threshold, the ZOIs are calculated below:

- 152 dB (rms) re 1 μ Pa at 16 m (12-in timber vibratory pile removal): ~2.3 km/1.4 mi

- 176 dB (rms) re 1 μ Pa at 6 m (24-in steel vibratory pile removal): ~32 km/20 mi (land is reached at ~31 km/19 mi)

The vibratory pile removal source levels do not exceed the Level A harassment criteria.

Using 187 dB (rms) re 1 μ Pa at 10 m for 24-in impact pile driving and the practical spreading loss model, the distances to the thresholds are calculated:

- The 190 dB (rms) re 1 μ Pa pinniped Level A harassment exclusion zone is reached within 6.3 m/21 ft.

- The 180 dB (rms) re 1 μ Pa cetacean Level A harassment exclusion zone is reached within 29 m/95 ft.

- The 160 dB (rms) re 1 μ Pa Level B ZOI is reached within 631 m/2,070 ft.

The more conservative cetacean injury zone (29 m/95 ft.) will be used to set the 24-inch steel exclusion zone. Although there is no acoustic injury zone for vibratory pile removal and the use of other heavy machinery other than impact pile driving, WSDOT should establish an exclusion zone of 10 m (30 ft.) around the equipment.

A summary of distances and areas of the exclusion zones for Level A harassment and of ZOI for Level B harassment is provided in Table 2 below.

Table 2. Distances and areas of Level A and Level B harassment zones for vibratory and impact pile driving activities

Pile Driving Method	Distance to 190 dB (m)	Distance to 180 dB (m)	Distance to 160 dB (m)	Distance to 120 dB (km)	ZOI size (km ²)
Vibratory pile removal (12-in timber)	NA	NA	NA	2.3	6.4
Vibratory pile removal (24-in steel)	NA	NA	NA	32	140

Impact driving (24-in steel pile)	6.3	29	631	NA	0.16
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Soft Start

A “soft-start” technique is intended to allow marine mammals to vacate the area before the pile driver reaches full power. Whenever there has been downtime of 30 minutes or more without pile driving, the contractor will initiate the driving with ramp-up procedures.

For vibratory hammers, the contractor shall initiate the driving for 15 seconds at reduced energy, followed by a 1 minute waiting period. This procedure shall be repeated two additional times before continuous driving is started. This procedure shall also apply to vibratory pile removal.

For impact driving, an initial set of three strikes would be made by the hammer at 40-percent energy, followed by a 1-minute waiting period, then two subsequent three-strike sets at 40-percent energy, with 1-minute waiting periods, before initiating continuous driving.

Shutdown and Power-down Measures

WSDOT shall implement shutdown if a marine mammal is sighted within or approaching the Level A exclusion zone. In-water construction activities shall be suspended until the marine mammal is sighted moving away from the exclusion zone, or if a large cetacean is not sighted for 30 minutes or if a small cetacean or pinniped is not sighted for 15 minutes after the shutdown.

In addition, WSDOT would implement shutdown measure when Southern Resident killer whales (as identified by Orca Network, NMFS, or other qualified source) or when humpback whales are detected or are notified by local marine mammal

researchers to approach the ZOIs during pile removal and pile driving, therefore preventing Level B takes of Southern Resident killer whales and humpback whales.

If a killer whale approaches the ZOI during pile driving or removal, and it is unknown whether it is a Southern Resident killer whale or a transient killer whale, it shall be assumed to be a Southern Resident killer whale and WSDOT shall implement the shutdown measure.

Finally, WSDOT would implement shutdown or measure to prevent Level B takes when the take of any other species or stock of marine mammal is approaching the limited take authorized under the IHA.

Coordination with Local Marine Mammal Research Network

Prior to the start of daily pile driving, the Orca Network and/or Center for Whale Research would be contacted to find out the location of the nearest marine mammal sightings. Daily sightings information can be found on the Orca Network Twitter site (<https://twitter.com/orcanetwork>), which would be checked several times a day.

The Orca Sightings Network consists of a list of over 600 (and growing) residents, scientists, and government agency personnel in the U.S. and Canada. Sightings are called or emailed into the Orca Network and immediately distributed to other sighting networks including: the Northwest Fisheries Science Center of NMFS, the Center for Whale Research, Cascadia Research, the Whale Museum Hotline and the British Columbia Sightings Network.

“Sightings” information collected by the Orca Network includes detection by hydrophone. The SeaSound Remote Sensing Network is a system of interconnected hydrophones installed in the marine environment of Haro Strait (west side of San Juan

Island) to study orca communication, in-water noise, bottom-fish ecology and local climatic conditions. A hydrophone at the Port Townsend Marine Science Center measures average in-water sound levels and automatically detects unusual sounds. These passive acoustic devices allow researchers to hear when different marine mammals come into the region. This acoustic network, combined with the volunteer (incidental) visual sighting network allows researchers to document presence and location of various marine mammal species.

With this level of coordination in the region of activity, WSDOT will be able to get real-time information on the presence or absence of whales before starting any pile driving.

Mitigation Conclusions

NMFS has carefully evaluated the mitigation measures proposed by WSDOT in the context of ensuring that NMFS prescribes the means of effecting the least practicable impact on the affected marine mammal species and stocks and their habitat. NMFS does not believe any further mitigation measures are necessary to achieve this purpose. Our evaluation of potential measures included consideration of the following factors in relation to one another:

- The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals.
- The proven or likely efficacy of the specific measure to minimize adverse impacts as planned.
- The practicability of the measure for applicant implementation.

Any mitigation measure(s) prescribed by NMFS should be able to accomplish, have a reasonable likelihood of accomplishing (based on current science), or contribute to the accomplishment of one or more of the general goals listed below:

(1) Avoidance or minimization of injury or death of marine mammals wherever possible (goals 2, 3, and 4 may contribute to this goal).

(2) A reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to received levels of pile driving and pile removal or other activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

(3) A reduction in the number of times (total number or number at biologically important time or location) individuals would be exposed to received levels of pile driving and pile removal, or other activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

(4) A reduction in the intensity of exposures (either total number or number at biologically important time or location) to received levels of pile driving, or other activities expected to result in the take of marine mammals (this goal may contribute to a, above, or to reducing the severity of harassment takes only).

(5) Avoidance or minimization of adverse effects to marine mammal habitat, paying special attention to the food base, activities that block or limit passage to or from biologically important areas, permanent destruction of habitat, or temporary destruction/disturbance of habitat during a biologically important time.

(6) For monitoring directly related to mitigation – an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation.

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS, NMFS has determined that the mitigation measures provide the means of effecting the least practicable impact on marine mammal species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

In order to issue an incidental take authorization (ITA) for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth, "requirements pertaining to the monitoring and reporting of such taking." The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for ITAs must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area. WSDOT submitted a marine mammal monitoring plan as part of the IHA application. It can be found at <http://www.nmfs.noaa.gov/pr/permits/incidental.htm>.

Monitoring measures prescribed by NMFS should accomplish one or more of the following general goals:

(1) An increase in the probability of detecting marine mammals, both within the mitigation zone (thus allowing for more effective implementation of the mitigation) and in general to generate more data to contribute to the analyses mentioned below;

(2) An increase in our understanding of how many marine mammals are likely to be exposed to levels of pile driving that we associate with specific adverse effects, such as behavioral harassment, Temporary Threshold Shift (TTS), or Permanent Threshold Shift (PTS);

(3) An increase in our understanding of how marine mammals respond to stimuli expected to result in take and how anticipated adverse effects on individuals (in different ways and to varying degrees) may impact the population, species, or stock (specifically through effects on annual rates of recruitment or survival) through any of the following methods:

- Behavioral observations in the presence of stimuli compared to observations in the absence of stimuli (need to be able to accurately predict received level, distance from source, and other pertinent information);
- Physiological measurements in the presence of stimuli compared to observations in the absence of stimuli (need to be able to accurately predict received level, distance from source, and other pertinent information);
- Distribution and/or abundance comparisons in times or areas with concentrated stimuli versus times or areas without stimuli;

(4) An increased knowledge of the affected species; and

(5) An increase in our understanding of the effectiveness of certain mitigation and monitoring measures.

Monitoring Measures

WSDOT shall employ NMFS-approved protected species observers (PSOs) to conduct marine mammal monitoring for its Coupeville timber towers preservation project.

During pile removal and installation, land-based and vessel-based PSOs would monitor the area from the best observation points available. The number of PSOs will be based on the sizes of ensonified zones and on the number necessary to ensure that the entire zones are monitored.

- During 24-inch steel impact pile driving, two land-based PSOs monitors will monitor the exclusion zone and ZOI. Pile driving will be paused if any marine mammal approaches the exclusion zone, which equate to the 29-m Level A harassment zone for those species for which take is authorized and to the larger Level B harassment zone for all other species.
- During in-water construction using other heavy machinery (including vibratory pile removal), construction activities should be paused if any marine mammal approaches the 10-m exclusion zone surrounding the heavy equipment.
- During vibratory timber pile removal, two land-based PSOs will monitor the ZOI, as shown in Figure 2 of WSDOT's Marine Mammal Monitoring Plan.
- During 24-inch vibratory pile removal, 7 land-based PSOs and one monitoring boat with a PSO and boat operator will monitor the ZOI, as shown in Figure 3 of WSDOT's Marine Mammal Monitoring Plan.
- If weather prevents safe use of the boat in the main channel of the ZOI, the boat will be used in other areas of the ZOI that are safe, such as the southwest corner of the ZOI, and where lack of public access prevents stationing a land-based PSO.

The PSOs would observe and collect data on marine mammals in and around the project area for 30 minutes before, during, and for 30 minutes after all pile removal and pile installation work. If a PSO observes a marine mammal within or approaching the exclusion zone, the PSO would notify the work crew to initiate shutdown measures. Monitoring of marine mammals around the construction site shall be conducted using high-quality binoculars (e.g., Zeiss, 10 x 42 power). To verify the required monitoring distance, the exclusion zones and ZOIs will be determined by using a range finder or hand-held global positioning system device.

During the project, in-water measurements of vibratory pile removal and impact pile driving noises may be taken to determine if the ZOIs need to be modified.

Reporting Measures

WSDOT shall submit a final monitoring report within 90 days after completion of the construction work or the expiration of the IHA, whichever comes earlier. This report would detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed. NMFS would have an opportunity to provide comments on the report, and if NMFS has comments, WSDOT would address the comments and submit a final report to NMFS within 30 days.

In addition, NMFS requires WSDOT to notify NMFS' Office of Protected Resources and NMFS' Stranding Network within 48 hours of sighting an injured or dead marine mammal in the vicinity of the construction site. WSDOT shall provide NMFS with the species or description of the animal(s), the condition of the animal(s) (including carcass condition, if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available).

In the event that WSDOT finds an injured or dead marine mammal that is not in the vicinity of the construction area, WSDOT would report the same information as listed above to NMFS as soon as operationally feasible.

Estimated Take by Incidental Harassment

Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

In-water pile removal and pile driving (vibratory and impact) generate loud noises that could potentially harass marine mammals in the vicinity of WSDOT's proposed Coupeville timber tower preservation project.

Currently NMFS uses 120 dB re 1 μ Pa and 160 dB re 1 μ Pa at the received levels for the onset of Level B harassment from non-impulse (vibratory pile driving and removal) and impulse sources (impact pile driving) underwater, respectively. Table 3 summarizes the current NMFS marine mammal take criteria.

Table 3. Current Acoustic Exposure Criteria for Non-explosive Sound Underwater

Criterion	Criterion Definition	Threshold
Level A Harassment (Injury)	Permanent Threshold Shift (PTS) (Any level above that which is known to cause TTS)	180 dB re 1 μ Pa (cetaceans) 190 dB re 1 μ Pa (pinnipeds) root mean square (rms)
Level B Harassment	Behavioral Disruption (for impulse noises)	160 dB re 1 μ Pa (rms)
Level B Harassment	Behavioral Disruption (for non-impulse noise)	120 dB re 1 μ Pa (rms)

As explained above, exclusion zones and ZOIs will be established that encompass the areas where received underwater sound pressure levels (SPLs) exceed the applicable thresholds for Level A and Level B harassments, respectively.

With the exception of harbor seals, Steller sea lion, and harbor porpoise, it is anticipated that all of the marine mammals that enter the Level B acoustical harassment ZOIs will be exposed to pile driving and removal noise only as they are transiting the area. Only harbor seals, Steller sea lion, and harbor porpoise are expected to forage and haulout in the Coupeville ZOIs with any frequency and could be exposed multiple times during a project.

As mentioned earlier, the distances to NMFS threshold for Level B (harassment) take for impact pile driving and vibratory pile removal were estimated as follows:

- *ZOI-1*: the 160 dB (rms) impact pile driving harassment threshold for 24" steel = 631 m/1,523 ft.
- *ZOI-2*: the 120 dB (rms) vibratory harassment threshold for 12-inch timber vibratory pile removal: = ~2.3 km/1.4 mi.
- *ZOI-3*: the 120 dB (rms) vibratory harassment threshold for 24-inch steel vibratory pile removal: = ~32 km/20 mi (land is reached at ~31 km/19 mi).

Airborne noises can affect pinnipeds, especially resting seals hauled out on rocks or sand spits. The 90 dB (rms) re 20 μ Pa harbor seal threshold was estimated at 126 ft/38 m, and the 100 dB (rms) re 20 μ Pa sea lion threshold at 40 ft/12 m.

The closest documented harbor seal haulout is the Rat Island/Kilisut Harbor Spit haulout in Port Townsend Bay, 5.5 miles southwest. The closest documented California sea lion haulout is a channel marker buoy located off Whidbey Island's Bush Point, 9

miles south. The closest documented Steller sea lion haulout is Craven Rock haulout, east of Marrowstone Island 5.5 miles south of the ferry terminal. Therefore, in-air disturbance could occur only to those pinnipeds moving on the surface through the immediate pier area, within approximately 126 ft/38 m and 40 ft/12 m of pile removal and driving. However, these individuals would also likely be exposed to underwater sound produced by the project. We do not consider potential effects from airborne noise further in this analysis.

No Level A take is expected due to implementing monitoring and mitigation measures such as installing air bubble curtain device for all impact pile driving and implementing shut-down measures for marine mammals about to enter the exclusion zones.

Incidental take for each species is estimated by determining the likelihood of a marine mammal being present within a ZOI during active pile driving or removal. Expected marine mammal presence is determined by past observations and general abundance near the project site during the construction window. Typically, potential take is estimated by multiplying the area of the ZOI by the local animal density. This provides an estimate of the number of animals that might occupy the ZOI at any given moment. However, there are no density estimates for any Puget Sound population of marine mammal. As a result, the take requests were estimated using local marine mammal data sets (e.g., The Whale Museum, Orca Network, state and federal agencies), opinions from state and federal agencies, and observations from WSDOT biologists.

The calculation for marine mammal exposures is estimated by:

Exposure estimate = $N \times \text{days of pile driving/removal}$, where:

N = # of animals based on long-term observations by local researchers.

Specifically, daily marine mammal occurrence (N) for harbor seal, Steller sea lion, and harbor porpoise are based on the observation data from the Orca Network (WSDOT 2015). Daily marine mammal occurrence for Dall's porpoise, transient killer whale, gray whale, and minke whale are based on the observation data from the Whale Museum (WSDOT 2015). The occurrence of the rest of the marine mammal species which do not frequently occur in the proposed project area are based on limited sighting occurrences over the years (WSDOT 2015).

Using this approach, a summary of estimated takes of marine mammals incidental to WSDOT's Coupeville Timber Towers Preservation Project are provided in Table 4.

Table 4. Estimated numbers of marine mammals that may be exposed to received noise levels that could cause Level B behavioral harassment.

Species	Estimated marine mammal takes	Abundance	Percentage
Pacific harbor seal	256	11,036	2.3%
California sea lion	16	296,750	0.01%
Steller sea lion	328	63,160	0.6%
Northern elephant seal	16	74,913	0.02%
Harbor porpoise	440	10,682	4.1%
Dall's porpoise	24	42,000	0.06%
Killer whale, transient	48	243	19.7%
Pacific white-sided dolphin	16	29,930	0.05%
Gray whale	8	19,126	0.04%
Minke whale	16	202	7.9%

Analysis and Determinations

Negligible Impact

Negligible impact is “an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival” (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of

recruitment or survival (i.e., population-level effects). An estimate of the number of Level B harassment takes, alone, is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be “taken” through behavioral harassment, NMFS must consider other factors, such as the likely nature of any responses (their intensity, duration, etc.), the context of any responses (critical reproductive time or location, migration, etc.), as well as the number and nature of estimated Level A harassment takes, the number of estimated mortalities, and effects on habitat.

WSDOT’s proposed Coupeville timber tower preservation project would involve vibratory pile removal and impact pile driving activities. Elevated underwater noises are expected to be generated as a result of these activities; however, these noises are expected to result in no mortality or Level A harassment and limited Level B harassment of marine mammals. WSDOT would employ an attenuation device (e.g., air bubble curtain) during impact pile driving, thus eliminating the potential for injury (including PTS) and TTS from noise impact. For vibratory pile removal, noise levels are not expected to reach the level that may cause TTS, injury (including PTS), or mortality to marine mammals. Therefore, NMFS does not expect that any animals would experience Level A harassment (including injury or PTS) or Level B harassment in the form of TTS from being exposed to in-water pile removal and pile driving associated with WSDOT’s construction project.

Additionally, the sum of noise from WSDOT’s proposed Coupeville timber tower preservation construction activities is confined to a limited area by surrounding landmasses; therefore, the noise generated is not expected to contribute to increased

ocean ambient noise. In addition, due to shallow water depths in the project area, underwater sound propagation of low-frequency sound (which is the major noise source from pile driving) is expected to be poor and the area affected by underwater sound may be smaller than is assumed here.

In addition, WSDOT's proposed activities are localized and of short duration. The entire project area is limited to WSDOT's Coupeville timber towers preservation construction work. The entire project duration for the construction would involve 12 hours in 8 days. These low-intensity, localized, and short-term noise exposures may cause brief startle reactions or short-term behavioral modification by the animals. These reactions and behavioral changes are expected to subside quickly when the exposures cease. Moreover, the required mitigation and monitoring measures are expected to reduce potential exposures and behavioral modifications even further. WSDOT would implement rigorous monitoring and mitigation measures to prevent takes of ESA-listed species (Southern Resident killer whales and humpback whales). Additionally, no important feeding and/or reproductive areas for marine mammals are known to be near the proposed action area (Calambokidis *et al.* 2015). Therefore, the take resulting from the proposed Coupeville timber tower preservation work is not reasonably expected to, and is not reasonably likely to, adversely affect the marine mammal species or stocks through effects on annual rates of recruitment or survival.

The proposed project area is not a prime habitat for marine mammals, nor is it considered an area frequented by marine mammals. Therefore, behavioral disturbances that could result from anthropogenic noise associated with WSDOT's construction activities are expected to affect marine mammals on an infrequent and limited basis.

The project also is not expected to have significant adverse effects on affected marine mammals' habitat, as analyzed in detail in the “**Anticipated Effects on Marine Mammal Habitat**” section. The project activities would not modify existing marine mammal habitat. The activities may cause some fish to leave the area of disturbance, thus temporarily impacting marine mammals' foraging opportunities in a limited portion of the foraging range; but, because of the short duration of the activities and the relatively small area of the habitat that may be affected, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the required monitoring and mitigation measures, NMFS finds that the total marine mammal take from WSDOT's Coupeville timber tower preservation project will have a negligible impact on the affected marine mammal species or stocks.

Small Number

Based on analyses provided above, it is estimated that approximately 256 harbor seals, 16 California sea lions, 328 Steller sea lions, 16 northern elephant seals, 440 harbor porpoises, 24 Dall's porpoises, 48 transient killer whales, 16 Pacific white-sided dolphins, 8 gray whales, and 16 minke whales could be exposed to received noise levels that could cause Level B behavioral harassment from the proposed construction work at the Coupeville Ferry Terminal in Washington State. These numbers represent approximately 0.02% to 19.7% of the populations of these species that could be affected by Level B behavioral harassment, respectively (see Table 4 above), which are small percentages relative to the total populations of the affected species or stocks.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, which are expected to reduce the number of marine mammals potentially affected by the proposed action, NMFS finds that small numbers of marine mammals will be taken relative to the populations of the affected species or stocks.

Impact on Availability of Affected Species for Taking for Subsistence Uses

There are no subsistence uses of marine mammals in the proposed project area; and, thus, no subsistence uses impacted by this action. Therefore, NMFS has determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act (ESA)

The humpback whale and the Southern Resident stock of killer whale are the only marine mammal species currently listed under the ESA that could occur in the vicinity of WSDOT's proposed construction projects. WSDOT would implement rigorous monitoring and mitigation measures to prevent takes of these ESA-listed species. NMFS' Permits and Conservation Division coordinated with NMFS West Coast Regional Office (WCRO) and reviewed the WSDOT's proposed monitoring and mitigation measures and determined that with the implementation of these measures, ESA-listed species would not be affected. Therefore, WCRO concurs that section 7 consultation under the ESA is not warranted for the issuance of the IHA.

National Environmental Policy Act (NEPA)

NMFS prepared an Environmental Assessment (EA) and analyzed the potential impacts to marine mammals that would result from WSDOT's Coupeville Timber Tower preservation project. A Finding of No Significant Impact (FONSI) was signed in March 2016. A copy of the EA and FONSI is available on the internet at:

<http://www.nmfs.noaa.gov/pr/permits/incidental/> (see **ADDRESSES**).

Authorization

As a result of these determinations , NMFS has issued an IHA to WSDOT for the harassment of small numbers of 10 marine mammal species incidental to the construction work associated to the Coupeville Timber Tower preservation project in Washington State, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: March 24, 2016.

Donna S. Wieting,
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